applied surface science

Contents

Volumes 236 (2004) Nos. 1–4

Short communications

Infrared spectroscopic studies on Mg intercalated crystalline MoO_3 thin films
T.S. Sian and G.B. Reddy 1

Effects of the pressure on growth of carbon nanotubes by plasma-enhanced hot filament CVD at low substrate temperature
B.B. Wang, S. Lee, X.Z. Xu, S. Choi, H. Yan, B. Zhang and W. Hao 6

The electrochemical behavior and surface structure of titanium electrodes modified by ion beams
G.F. Huang, Z. Xie, W.Q. Huang, S.B. Yang and L.H. Zhao 13

Direct patterning of rhodamine 6G molecules on mica by dip-pen nanolithography
H. Zhou, Z. Li, A. Wu, G. Wei and Z. Liu 18

Electron irradiation effects on DES/Ge (1 0 0) at 90 K
J. Lozano, D. Early, P. Petrany, J.H. Craig Jr., P. Wang and K.R. Kimberlin 25

Determination of the refractive index depth profile of an UV-laser generated waveguide in a planar polymer chip
M.A. Shams-el-Din, C. Wochnowski, S. Metev, A.A. Hamza and W. Jüptner 31

Comparison of electrical and optical parameters of Au/n-Si and Ag/n-Si Schottky barrier photodiodes
A. Keffous, M. Siad, A. Cheriet, N. Benrekaa, Y. Belkacem, H. Menari, W. Chergui and A. Dahmani 42

Deposition of yttrium-based thin films on TA6V alloy substrates
R. Siab, G. Bonnet, J.M. Brossard and J.F. Dinhut 50

Nanometer size recrystallization grain induced by applied electric field
J. Dou, W. Shang and Z. Chen 57

Niobium zirconium nitride sputter-deposited protective coatings
M. Debessai, P. Filip and S.M. Aouadi 63

An XPS study of laser-fabricated polyimide/titanium interfaces
D.G. Georgiev, R.J. Baird, G. Newaz, G. Auner, R. Witte and H. Herfurth 71

The influence of inhibitors molecular structure and steel microstructure on corrosion layers in CO2 corrosion. An XPS and SEM characterization
D.A. López, W.H. Schreiner, S.R. de Sánchez and S.N. Simison 77

Microstructure and properties of borocarburized 15CrNi6 steel after laser surface modification
M. Kulka and A. Pertek 98

On nanophase stability in eutectoid Zn–Al based alloy films
Y.H. Zhu, W.B. Lee, C.Y. Chung and S. To 106

Polarisation-independence of femtosecond laser machining of fused silica
H.Y. Zheng, W. Zhou, H.X. Qian, T.T. Tan and G.C. Lim 114

Chemical mechanical polishing (CMP) anisotropy in sapphire
H. Zhu, L.A. Tessaroto, R. Sabia, V.A. Greenhut, M. Smith and D.E. Niesz 120

Effects of molecular weight, solvent and substrate on the dewetting morphology of polystyrene films
J. Zhao, S. Jiang, Q. Wang, X. Liu, X. Ji and B. Jiang 131

Surface structure and topology in surface stabilized Co-nanoparticles with a thin Al_2O_3 amorphous layer
S. Rana, S. Ram, S. Seal and S.K. Roy 141

Organic sulphur-containing compounds as corrosion inhibitors for mild steel in acidic media: correlation between inhibition efficiency and chemical structure
M. Özcan, İ. Dehri and M. Erbil 155

Influence of surface additives iodine and indium on the initial growth in copper chemical vapor deposition
T.-Y. Chang, J.-J. Tze and D.-S. Tsai 165

Inhibition of stainless steel pitting corrosion in acidic medium by 2-mercaptobenzoxazole
S.A.M. Refaey, F. Taha and A.M. Abd El-Malak 175

Structure and scintillation properties of CsI(Tl) epitaxial layers
A. Ananenko, A. Fedorov, P. Mateychenko, V. Tarasov and Yu. Vidaj 186

Preparation of GaN films on ZnO buffer layers by rf magnetron sputtering
H.W. Kim and N.H. Kim 192

(Contents continued on page XVIII)

0169-4332(20040915)236:1-4;1-U

(*Continued from outside back cover*)

Quantitative analysis and thickness dependence study of Langmuir-Blodgett films of functionalized platinum nanoparticles by X-ray photoelectron spectroscopy
F. Raynal, A. Etcheberry, C. Reynaud and H. Perez 198

Band line-up at the 4H-SiC/Ni interface determined with photoemission spectroscopy
M.M. Beerbom, Z. Bednarova, R. Gargagliano, Y.N. Emirov and R. Schlaf 208

γ-MnO_2 nano-sieve membrane: preparation, characterization and reaction studies
L. Zhao and R. Wang 217

Effect of chemisorbed surface species on the photocatalytic activity of TiO_2 nanoparticulate films
Y. Cao, W. Yang, Y. Chen, H. Du and P. Yue 223

Low-macroscopic field emission from fibrous ZnO thin film prepared by catalyst-free solution route
R. Maity, A.N. Banerjee and K.K. Chattopadhyay 231

The oxidation behavior of Ce-implanted ZrN coating
Q.G. Zhou, X.D. Bai, X.Y. Xue, Y.H. Ling, X.W. Chen, J. Xu and D.R. Wang 236

Effect of benzotriazole derivatives on the corrosion of brass in NaCl solutions
R. Ravichandran, S. Nanjundan and N. Rajendran 241

White emission via electroplex formation at poly(*N*-vinylcarbazole)/2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline interface
Y.-M. Wang, F. Teng, Z. Xu, Y.-B. Hou, S.-Y. Yang, L. Qian, T. Zhang and D.-A. Liu 251

Synthesis and characterisation of pack cemented aluminide coatings on metals
C. Houngninou, S. Chevalier and J.P. Larpin 256

Study of chemical dissolution of the barrier oxide layer of porous alumina films formed in oxalic acid using a re-anodizing technique
I. Vrublevsky, V. Parkoun, V. Sokol and J. Schreckenbach 270

Plasma surface modification of polystyrene and polyethylene
S. Guruvenket, G. Mohan Rao, M. Komath and A.M. Raichur 278

Friction and wear study of diamond-like carbon gradient coatings on Ti6Al4V substrate prepared by plasma source ion implant-ion beam enhanced deposition
S.-w. Jiang, B. Jiang, Y. Li, Y.-r. Li, G.-f. Yin and C.-q. Zheng 285

Electrochemical synthesis of polyaniline on mild steel in acetonitrile–$LiClO_4$ and corrosion performance
T. Tüken, A.T. Özyılmaz, B. Yazıcı and M. Erbil 292

Effect of pH on electrical and optical properties of sol–gel derived microcrystalline $Ba_{0.5}Sr_{0.5}TiO_3$ thin films
S.C. Roy, G.L. Sharma, M.C. Bhatnagar, R. Manchanda, V.R. Balakrishnan and S.B. Samanta 306

Study of adsorption from binary liquid mixtures on thermally treated activated carbon
A. Świątkowski, A. Deryło-Marczewska, J. Goworek and S. Błażewicz 313

Electrical and optical properties of sol–gel derived La modified $PbTiO_3$ thin films
S. Chopra, S. Sharma, T.C. Goel and R.G. Mendiratta 321

Study of structure, tribological properties and growth mechanism of DLC and nitrogen-doped DLC films deposited by electrochemical technique
X. Yan, T. Xu, G. Chen, S. Yang and H. Liu 328

Synthesis of ammonium silicon fluoride cryptocrystals on silicon by dry etching
S. Kalem 336

A novel dynamic kinetic model of oxygen isotopic exchange on a supported metal catalyst
A. Galdikas, D. Duprez and C. Descorme 342

Morphological analysis of pits formed on Al 2024-T3 in chloride aqueous solution
J.W.J. Silva, A.G. Bustamante, E.N. Codaro, R.Z. Nakazato and L.R.O. Hein 356

Correlation between series resistance and parameters of Al/n-Si and Al/p-Si Schottky barrier diodes
M. Siad, A. Keffous, S. Mamma, Y. Belkacem and H. Menari 366

Influence of the cation nature of high sulfur content oxysulfide thin films MO_yS_z (M=W, Ti) studied by XPS
H. Martinez, A. Benayad, D. Gonbeau, P. Vinatier, B. Pecquenard and A. Levasseur 377

Effect of ozone cleaning on Pt/Au and W/Pt/Au Schottky contacts to n-type ZnO
K. Ip, B.P. Gila, A.H. Onstine, E.S. Lambers, Y.W. Heo, K.H. Baik, D.P. Norton, S.J. Pearton, S. Kim, J.R. LaRoche and F. Ren 387

Benzene and carbon monoxide co-adsorption on Pt(1 1 1): a theoretical study
P.V. Jasen, G. Brizuela, Z. Padin, E.A. Gonzalez and A. Juan 394

The electrochemical behavior of thermally oxidized CrN coatings deposited on steel by cathodic arc plasma deposition
K.-L. Chang, S.-C. Chung, S.-H. Lai and H.-C. Shih 406

Poly(ethylene terephthalate) surface modification by deep UV (172 nm) irradiation
Z. Zhu and M.J. Kelley 416

Field emission characteristics of diamond-like carbon films synthesized by electrodeposition technique
S. Gupta, M.Pal. Chowdhury and A.K. Pal 426

Reactivities of some thiol collectors and their interactions with Ag (+1) ion by molecular modeling
H. Yekeler and M. Yekeler 435

Spectroscopic study of chemically stabilized dichroic thin crystal films
J. Birgerson, A. Lindsjö, M.M. Selo, M. Grehk and K. Skarp 444

A kinetic model for the borided layers by the paste-boriding process
M. Keddam 451

AFM and ESEM characterisation of functionally nanostructured fibres
Q.F. Wei, X.Q. Wang and W.D. Gao 456

Electrochemically induced switching in SmH_x thin films
P. Kumar and L.K. Malhotra 461

Step melting of crystalline and amorphous lead foils due to irradiation by UV laser pulses
M. Füle, H. Horn, L. Nánai and T.F. George 467

Photoelectron spectroscopy study of oxygen vacancy on vanadium oxides surface
Q.-H. Wu, A. Thissen, W. Jaegermann and M. Liu 473

Author Index I

Subject Index V